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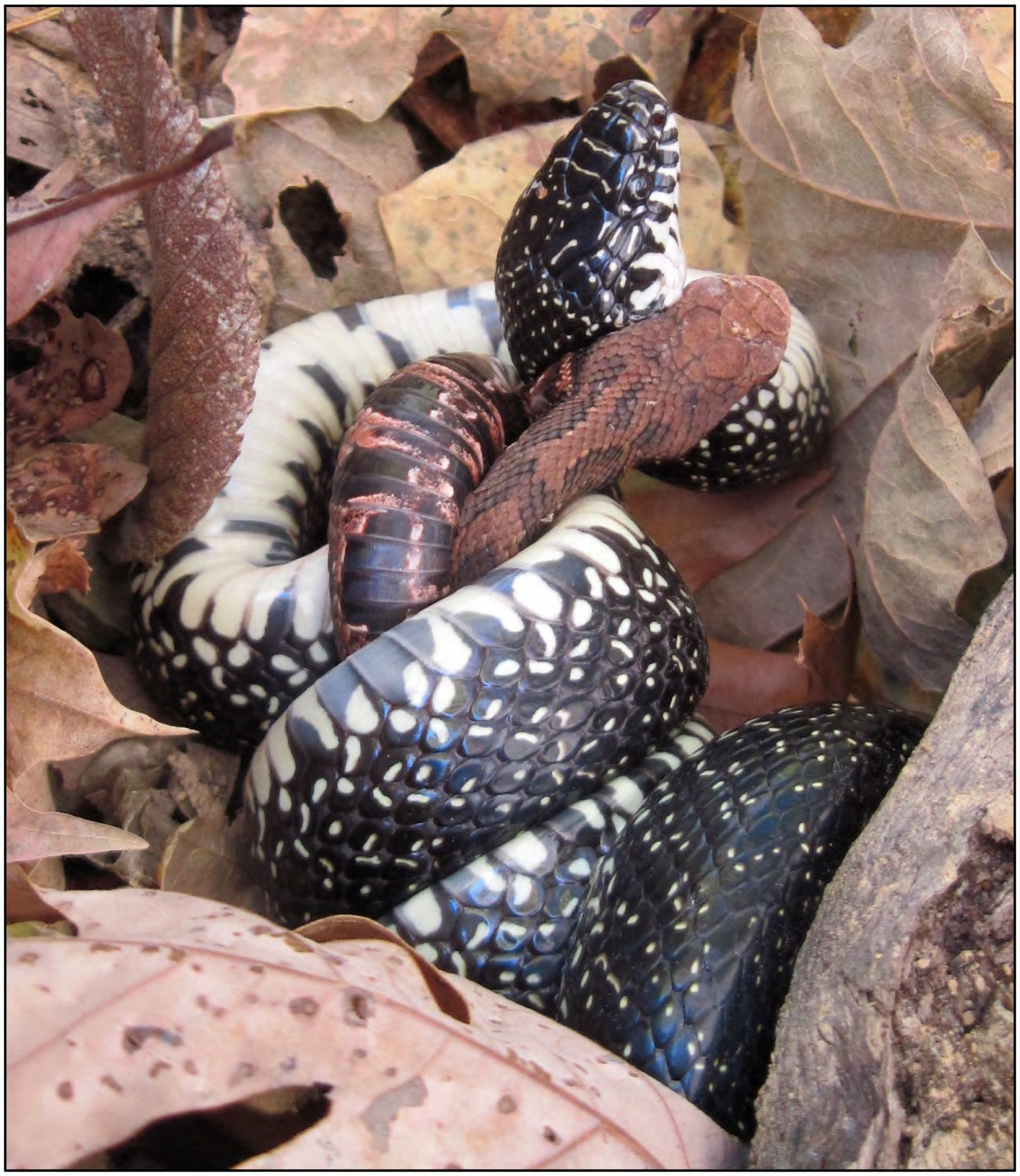

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Snakes of "Snake Road"

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Abstract

The LaRue-Pine Hills/Otter Pond Research Natural Area, Shawnee National Forest, Union County, Illinois, is bisected by Forest Road 345, which is closed twice annually, in spring and autumn, for snake migrations. The road is colloquially known as Snake Road. I walked Snake Road and immediate environs irregularly from spring 1996 through autumn 2015 and tallied each snake encounter. During 195 hours, distributed over 67 visits, I recorded 851 observations of 17 snake species. Cottonmouths (63%) dominated snake observations, followed by plain-bellied watersnakes (7.4%), western ribbonsnakes (6.7%), DeKay's brownsnakes (4.1%), and rough greensnakes (2.9%). The snake community appears similar to that observed during herpetofaunal surveys conducted in the 1950s and during 1987–1993.

Introduction

Forest Road 345 is a 4-km long, narrow (approximately 3 m wide), gravel road within the 1137-ha LaRue-Pine Hills/Otter Pond Research Natural Area (LPH), Shawnee National Forest, Union County, Illinois, that is closed annually for eight weeks in spring and eight weeks in autumn (Figure 1). The road is popularly known as Snake Road because the bi-annual closures permit safe passage of snakes as they move between the uplands of Pine Hills and the lowlands associated with LaRue Swamp. Snake Road separates the bluffs of Pine Hills to the east and LaRue Swamp to the west. From the swamp, the cherty Bailey limestone of Pine Hills rises approximately 150 m to its crest on Pine Hills Road. Vertical, chalk-colored bluffs in excess of 45 m tower over the swamp. Pine Hills is named for several small stands of native shortleaf pine (*Pinus echinata*) that occur on steep, west- to south-facing chert-covered slopes above the bluffs. Except for vertical bluffs, the slopes of Pine Hills are forested with a canopy comprised principally of oaks (*Quercus* spp.), hickories (*Carya* spp.), tulip tree (*Liriodendron tulipifera*), white ash (*Fraxinus americana*), American beech (*Fagus grandifolia*), and sugar maple (*Acer saccharum*) (Mohlenbrock, 1959; Mohlenbrock and Voigt, 1965).

LaRue Swamp is an abandoned meander channel of the Big Muddy River, from which it is now separated by an earthen levee. Several springs emerge from the base of the bluffs, continually spilling clear, cool (~13 °C) water into the swamp complex (Rossman, 1960). The swamp complex is a mixture of open water, clusters of low-growing herbaceous and woody vegetation, and forest (Mohlenbrock, 1959; Mohlenbrock and Voigt, 1965). Principal tree species include red maple (*Acer rubrum*), sugarberry (*Celtis laevigata*), pumpkin ash (*Fraxinus tomentosa*), green ash (*Fraxinus pennsylvanica*), water locust (*Gleditsia aquatica*), swamp cottonwood (*Populus heterophylla*) and black willow (*Salix niger*); the shrub layer comprises principally buttonbush (*Cephalanthus occidentalis*), swamp rose (*Rosa palustris*), and swamp loosestrife (*Decodon verticillatus*). Mesic forest borders the swampland and consists of oaks, hickories, red maple, box elder (*Acer negundo*), silver maple (*Acer saccharinum*), sugarberry, green ash, sweetgum (*Liquidambar styraciflua*), honey locust (*Gleditsia triacanthos*), and slippery elm (*Ulmus rubra*) (Mohlenbrock, 1959; Mohlenbrock and Voigt, 1965).

Every spring and autumn, snakes migrate between overwintering sites in the bluffs to and from active-season sites in the mesic to wet lowlands. Snakes crossing the road are vulnerable to injury or death resulting from crushing by passing motorized vehicles. To address this problem, the USDA Forest Service implemented a seasonal road closure policy in 1972. Initially, the road was closed to vehicular traffic by means of gates across the south and north ends of the road for three weeks in spring and fall (Ballard, 1994). Road closure periods have been lengthened to eight weeks each spring (15 March – 15 May) and autumn (1 September – 30 October; Figure 1).

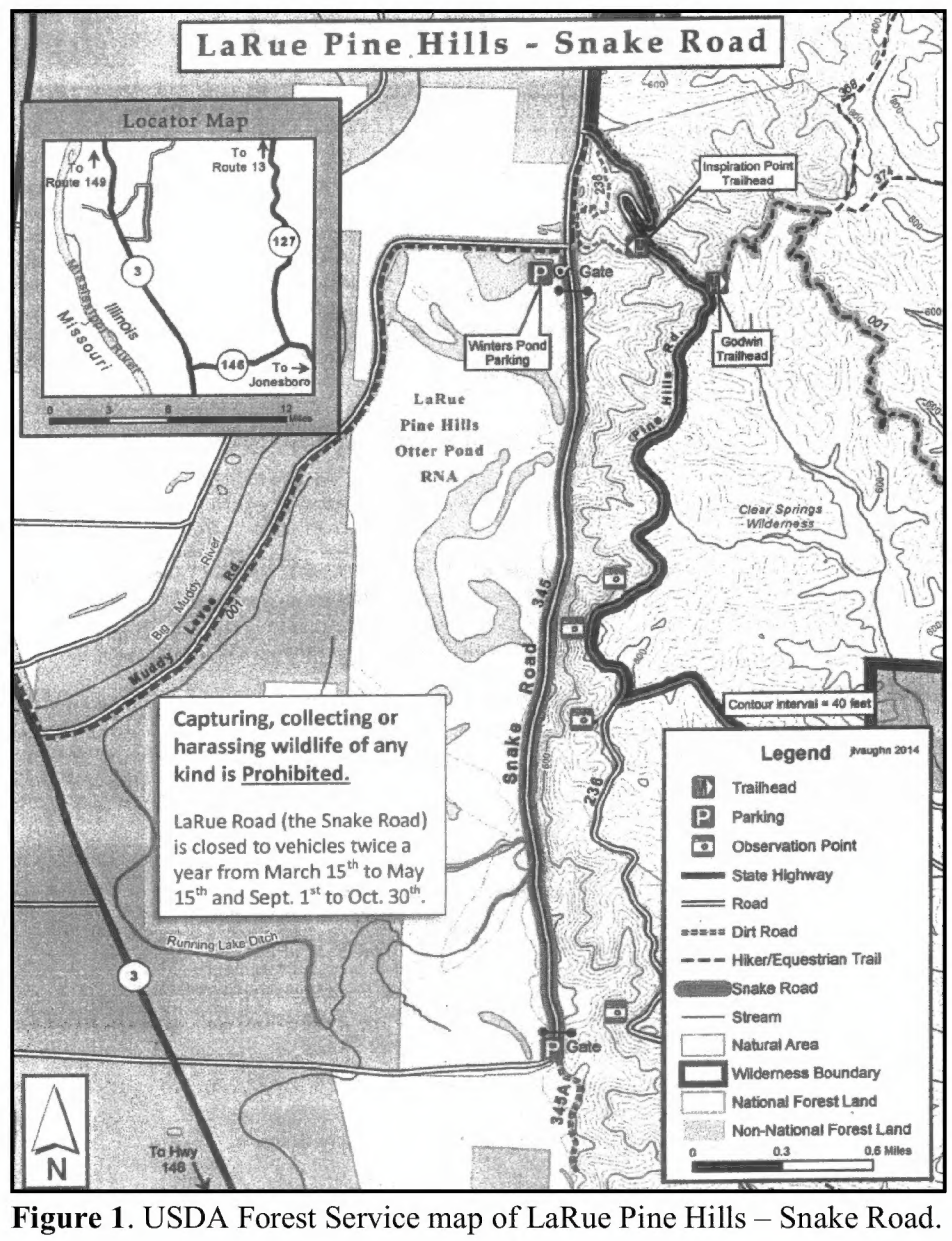

Figure 1. USDA Forest Service map of LaRue Pine Hills – Snake Road.

Table 1. Snakes known from LaRue-Pine Hills/Otter Pond Research Natural Area, Union County, Illinois, and comparison of snake species observed by Rossman (1960), Ballard (1994), and during this study (X = observed).

Snake species		Rossman (1960) ~1954–1958	Ballard (1994) 1987–1993	This study 1996–2015
Scientific name	**Common name**			
Agkistrodon contortrix	Copperhead	X	X	X
Agkistrodon piscivorus	Cottonmouth	X	X	X
Carphophis amoenus	Common wormsnake	X	X	
Cemophora coccinea	Scarletsnake			
Coluber constrictor	North American racer	X	X	X
Crotalus horridus	Timber rattlesnake	X	X	X
Diadophis punctatus	Ring-necked snake	X	X	X
Farancia abacura	Red-bellied mudsnake	X	X	X
Heterodon platirhinos	Eastern hog-nosed snake	X	X	
Lampropeltis nigra	Eastern black kingsnake	X	X	X
Lampropeltis triangulum	Milksnake	X		X
Nerodia cyclopion	Mississippi green watersnake	X	X	X
Nerodia erythrogaster	Plain-bellied watersnake	X	X	X
Nerodia rhombifer	Diamond-backed watersnake	X	X	
Nerodia sipedon	Common watersnake	X	X	
Opheodrys aestivus	Rough greensnake	X	X	X
Pantherophis spiloides	Gray ratsnake	X	X	X
Storeria dekayi	Dekay's brownsnake	X	X	X
Storeria occipitomaculata	Red-bellied snake	X	X	X
Tantilla gracilis	Flat-headed snake			
Thamnophis proximus	Western ribbonsnake	X	X	X
Thamnophis sirtalis	Common gartersnake	X	X	X
Virginia valeriae	Smooth earthsnake	X	X	X
Total species		**21**	**20**	**17**

Two comprehensive amphibian and reptile surveys have focused on the LPH area. Rossman (1960) published the first list of 56 species of amphibians and reptiles known from the area, including 23 species of snakes, 21 of which he or colleagues observed (Table 1). In preparing his manuscript, Rossman examined museum specimens, consulted published literature, conferred with colleagues, and conducted first-hand field surveys. He did not, however, describe his survey methods nor did he provide survey dates. I was able to deduce from reading his paper that he looked beneath cover objects (e.g., rocks on talus slopes) and searched both day and night. He conducted his survey at LPH sometime during his 1954–1958 tenure as an undergraduate student at Southern Illinois University at Carbondale.

Ballard (1994) completed a follow-up survey of the herpetofauna of LPH from 1987 to 1993, conducting the bulk of his survey over 6–10 month periods annually from 1988 to 1990. Ballard (1994) visually surveyed herpetofauna while driving roads (including Snake Road) and walking trails, both day and night. He also trapped at two drift fences. He used standard search and seize methodology such as looking for animals beneath cover objects or active on the surface. Ballard (1994) also accepted and included observations of reliable colleagues. Ballard (1994) recorded 20 species of snakes (Table 1), all but one of the same species observed by Rossman (1960).

I keep field notes in which I record herpetofaunal observations I make while afield. Here, I summarize my field notes pertaining to my observations of snakes at LPH (including Snake Road) from 1996 through 2015. I compare my observations of snakes at LPH with those of Rossman (1960) and Ballard (1994).

Methods

Since spring of 1996, I have made irregular, diurnal (0900–2100), warm-weather (air temperature = 15.0–28.5 °C) visits to LPH (principally along and near Snake Road). Between 30 March 1996 and 12 November 2015 (excluding 2004 and 2011 when I did not visit the area), I visited LPH 67 times (Table 2). Most visits (54%) were made from 2010 to 2015. Due to other obligations during spring months, my surveys were skewed (61% of visits and 74.5% of hours) towards autumn (September through November). I visited from 1 to 18 times per year. Some of these visits were brief (e.g., <0.5 hr) and geographically restricted (e.g., limited to the vicinity of Winter's Pond near the north end of Snake Road). During other visits, lasting up to 7.5 hours, I 1) walked the entire length of the closed road, 2) walked from the south gate to the north end of Otter Pond, and 3) explored the base of some nearby bluffs. I once went further afield

Table 2. Monthly snake observations and survey effort at LaRue-Pine Hills/Otter Pond Research Natural Area, Union County, Illinois, from 1996 through 2015.

Snake species	Jan	Feb	Mar	Apr	May	Jun	Sep	Oct	Nov	Total	%
Agkistrodon contortrix							6	1		**7**	**0.8**
Agkistrodon piscivorus	3		2	6	1	1	151	300	72	**536**	**63.0**
Coluber constrictor				1			3	5		**9**	**1.1**
Crotalus horridus							3	2		**5**	**0.6**
Diadophis punctatus				2	2	1	6	5	1	**17**	**2.0**
Farancia abacura				1				1		**2**	**0.2**
Lampropeltis nigra							4	2		**6**	**0.7**
Lampropeltis triangulum							3			**3**	**0.4**
Nerodia cyclopion	1	1					7	6	1	**16**	**1.9**
Nerodia erythrogaster	1		1	7			28	20	6	**63**	**7.4**
Opheodrys aestivus				4			13	7	1	**25**	**2.9**
Pantherophis spiloides				1		1	4	12		**18**	**2.1**
Storeria dekayi							5	16	14	**35**	**4.1**
Storeria occipitomaculata				2	2		1	5	2	**12**	**1.4**
Thamnophis proximus		5	6	11			12	20	3	**57**	**6.7**
Thamnophis sirtalis			5	2			2	1		**10**	**1.2**
Virginia valeriae					3	1		2	5	**11**	**1.3**
Unidentified snakes			1				9	8	1	**19**	**2.2**
Total snakes	**5**	**6**	**15**	**37**	**8**	**4**	**257**	**413**	**106**	**851**	

Number of visits	**2**	**2**	**5**	**11**	**5**	**1**	**19**	**17**	**5**	**67**
Number of hours	**3.5**	**2**	**6.5**	**26**	**7**	**4.5**	**70.5**	**60**	**15**	**195**
Mean snakes per visit	**2.5**	**3.0**	**3.0**	**3.4**	**1.6**	**4.0**	**13.5**	**24.3**	**21.2**	**12.7**
Mean snakes per hour	**1.4**	**3.0**	**2.3**	**1.4**	**1.1**	**0.9**	**3.6**	**6.9**	**7.1**	**4.3**

to the south (south of Otter Pond; 37°31'37" N, 89°26'14"W) and four times to the north (nearly to Forest Service Road 236; 37°35'15.5"N, 89°26'24"W). In total, I spent 195 hours on-site. Although not exclusively for the purpose of finding snakes, I include observations of snakes made during visits to the area having other objectives such as educating young children about nature, observing wildflowers, or learning about the area's natural history, geology, and former human inhabitants during USDA Forest Service-sponsored field trips.

I surveyed snakes at LPH alone or in the company of up to 15 other people (e.g., school groups). Except in rare circumstances where a snake observed by a nearby and knowledgeable companion slipped out of sight before I saw it, I did not record snakes that I did not observe myself. Nor did I count subsequent observations of individual snakes I observed earlier the same day. For example, I did not count snakes observed a second time when re-tracing my path along the road or bluffs. Further, I do not include observations of snakes observed on or near Pine Hills Road, LaRue Road, or the Big Muddy River levee road.

I surveyed for snakes by walking slowly on the road and along the base of bluffs, visually scanning for snakes on the surface. I used binoculars (10 × 40) to facilitate locating and identifying snakes at a distance and a flashlight to illuminate snakes in crevices within or beneath the bluffs. I turned cover objects very infrequently, after which I returned them to their original position (I detected only one snake beneath a cover object). I identified each snake to species when possible and tallied each observation. Some snakes fled before being positively identified or were too deep within crevices to recognize species-specific identifying characteristics. These snakes were tallied as "species unknown."

Results and Discussion

From 1996 through 2015, I tallied 851 observations of 17 species of snakes (Table 2). I observed an average of 13 snakes per visit (range = 0–78), an average of 4 snakes per hour (range = 0–13), and an average of 3 species of snakes per visit (range = 0–10). Cottonmouths comprised 63% of snake observations (Table 2). Cottonmouths typically outnumber observations of other snake species at LPH (Rossman, 1960; Garton et al., 1970; Ballard, 1994), as well as at other hibernacula in southernmost Illinois (Cagle, 1942; Palis, 2010). Plain-bellied watersnakes were the second-most frequently encountered species (7.4%), followed by western ribbonsnakes (6.7%), DeKay's brownsnakes (4.1%), and rough greensnakes (2.9%). Frequency of observations of remaining snake species (15.9%) ranged from 0.2 to 2.1% (Table 2). I could not positively identify 19 snakes (2.2%).

Comparison of my observations with those of Rossman

Table 3. Comparison of frequencies of snake observations at LaRue-Pine Hills/Otter Pond Research Natural Area, Union County, Illinois, by Rossman (1960), Ballard (1994), and during this study. I calculated observation frequencies for 1987–1993 using data provided by Ballard (1994).

Snake species	Rossman (1960) ~1954–1958	Ballard (1994) 1987–1993 (%)	This study 1996–2015 (%)
Agkistrodon contortrix	least abundant of venomous	0.9	0.8
Agkistrodon piscivorus	most abundant snake	69.1	63.0
Carphophis amoenus	more abundant than *S. occipitomaculata*	0.7	none
Coluber constrictor	frequently found on talus	1.4	1.1
Crotalus horridus	not abundant	1.2	0.6
Diadophis punctatus	most abundant small snake	1.7	2.0
Farancia abacura	abundance difficult to assess	0.7	0.2
Heterodon platirhinos	rare	0.3	none
Lampropeltis nigra	not frequently encountered	0.3	0.7
Lampropeltis triangulum	more abundant than *L. nigra*	none	0.4
Nerodia cyclopion	no comment on abundance	6.0	1.9
Nerodia erythrogaster	most abundant "*Natrix*"	6.3	7.4
Nerodia rhombifer	no comment on abundance	0.7	none
Nerodia sipedon	least abundant "*Natrix*"	0.1	none
Opheodrys aestivus	not abundant	0.5	2.9
Pantherophis spiloides	relatively abundant	3.2	2.1
Storeria dekayi	no comment on abundance	0.8	4.1
Storeria occipitomaculata	rare	0.3	1.4
Thamnophis proximus	infrequently seen	3.7	6.7
Thamnophis sirtalis	no comment on abundance	1.3	1.2
Virginia valeriae	relatively abundant	0.8	1.3

(1960) and Ballard (1994) are complicated by several factors, the first of which is that the area surveyed may have differed to varying degrees between my survey and those of the others. Rossman (1960) described the "Pine Hills area" as "three miles of north-south oriented bluffs" and "a large swamp." Whether he was describing the area in general terms or the outline of his survey area is unclear. With the exception of his inclusion of snakes observed on the Big Muddy River levee road and LaRue Road, Ballard (1994) and I surveyed very similar areas.

Methodology also varied among the three surveys. Rossman (1960) said nothing about his field-survey techniques, but I do know that he turned cover objects. Ballard (1994) provided greater detail regarding survey methodology, but not the total number of days or number of hours he spent on-site. Comparisons of my observations with Ballard's (1994) are further confounded by his use of drift fences, a technique that I did not employ. Traps at drift fences can increase herpetofaunal observations relative to visual encounter surveys (Willson and Gibbons, 2009), especially those of snakes (Fitch, 1992; Palis, 2007). Because he drove rather than walked, Ballard's (1994) on-road observations were likely skewed towards large snakes because they are more detectable from a moving vehicle than small snakes (personal observations).

As mentioned above, Rossman (1960) and Ballard (1994) included observations of knowledgeable colleagues in their reports, including snakes observed in the absence of either author. This certainly confounds comparison of datasets, not only numbers of individuals, but also species lists. Ballard (1994), for example, included eastern hog-nosed snakes on his list even though he did not observe any himself. Additionally, instead of numbers of individuals observed, Rossman (1960) assigned undefined qualitative abundance rankings to most, but not all, snake species.

Observer bias also confounds study comparisons because people can differ in their ability to spot snakes (Christy et al., 2010; Rodda, 1993). Time of year, weather, and snake behavior patterns all play significant roles in determining snake activity and thus detectability. Moreover, snake species, due to differences in behavior, size, pattern, or color, differ in detectability. For example, a large, dark cottonmouth lying atop colorful, newly-fallen leaves in autumn is more obvious to the human eye than a diminutive, cryptic earthsnake in the same situation. Despite all the shortcomings described above, I compare—with some trepidation—my results with those of Rossman (1960) and Ballard (1994), especially where our data appear to be remarkably similar or considerably different (Table 3).

I did not observe four species of snakes (common wormsnakes, eastern hog-nosed snakes, diamond-backed watersnakes, and common watersnakes) recorded by Rossman (1960) and Ballard (1994). Wormsnakes, although often abundant, are infrequently active on the surface (Ernst and Ernst, 2003) and are best detected by lifting cover objects in spring when soil

Table 4. Relative frequency (1 = highest, 4 = lowest) of micro-snake sightings at LaRue-Pine Hills/ Otter Pond Research Natural Area, Union County, Illinois, by Rossman (1960), Ballard (1994), and during this study.

Snake species	Rossman (1960) ~1954–1958	Ballard (1994) 1987–1993	This study 1996–2015
Carphophis amoenus	3	3	none
Diadophis punctatus	1	1	2
Storeria dekayi	no comment	2	1
Storeria occipitomaculata	4	4	3
Virginia valeriae	2	2	4

moisture is relatively high (Orr, 2006). Rossman (1960) detected wormsnakes exclusively beneath cover objects and Ballard (1994) observed them only in spring. My lack of wormsnake sightings may be a result of surveying principally in autumn as well as my methodological bias towards detecting surface-active snakes.

Both Rossman (1960) and Ballard (1994) classified eastern hog-nosed snakes as rare at LPH. This species may, indeed, be rare in the lowlands and forested slopes at LPH as it prefers grasslands and open woodlands (LaGory et al. 2009; Plummer and Mills, 2000), habitat types that are now relatively rare at LPH as a result of long-term fire suppression.

Rossman (1960) stated that common watersnakes were "the least abundant *Natrix*" at LPH and Ballard (1994) classified them as rare. Common watersnakes may actually be rare at LPH since they typically inhabit rocky streams in southern Illinois, not swamps (Cagle, 1942). Rossman (1960) did not comment on the abundance of diamond-backed watersnakes, but Ballard (1994) considered them uncommon. I am unable to explain my lack of diamond-backed watersnake sightings at LPH. One possibility is the tendency of diamond-backed watersnakes to hibernate in subterranean burrows near water (Nelson, 1983). If they exhibit this behavior at LPH, diamond-backed watersnakes would not need to cross Snake Road to reach over-wintering sites. Since I spent my time on the road and along bluffs, I would not encounter animals that remain year-round in the lowlands. Because common watersnakes also hibernate in subterranean burrows near water (Olds, 2007), they, too, may be less likely to be encountered on Snake Road or at the bluffs.

Cottonmouths have consistently been the most frequently observed snake at LPH (Table 3; Garton et al., 1970). This suggests two things: 1) that cottonmouths are readily detected by human observers as they move across Snake Road to and from hibernacula and while at hibernacula, and 2) that they have maintained a robust population at LPH since the mid-1950s. The other two viper species (copperheads and timber rattlesnakes) were infrequently encountered during all three surveys (Table 3).

Plain-bellied watersnakes have consistently been the most frequently observed watersnake at LPH (Table 3). Rossman (1960) did not comment on the abundance of Mississippi green watersnakes, but Ballard (1994) classified them as common. I observed one-third as many Mississippi green watersnakes as Ballard (1994). Unfortunately, it is not possible to determine what, if anything, this decrease in Mississippi green watersnake sightings indicates. It may simply be a result of sampling bias. Ballard (1994) focused sampling efforts towards this species to determine its conservation status. Natural population fluctuations, however, cannot be discounted. Keiser (1958), who documented Mississippi green watersnake at LPH for the first time in 1956, noted that the species was not encountered previously despite decades of herpetological collecting. Studies of Florida green watersnakes (*Nerodia floridana*), formerly conspecific with Mississippi green watersnakes, suggest that green watersnake populations may fluctuate more than those of other watersnakes (Willson et al., 2006).

The relative abundance of micro-snakes (common wormsnakes, ring-necked snakes, DeKay's brownsnakes, red-bellied snakes and smooth earthsnakes) appears to have changed little since the 1950s (Table 4). However, the relative frequency of brownsnake and red-bellied snake observations has increased since Ballard's survey (Table 3). In addition, I observed considerably more micro-snakes overall (N = 75) than Ballard (1994; N = 32). Since the vast majority of my micro-snake observations were made as I walked Snake Road, I suggest that sampling bias explains the difference in our number of micro-snake sightings. In my experience, micro-snakes on roads are more readily detected by walking rather than driving. Ballard (1994) drove roads whereas I walked. In addition, brownsnake encounters on roads are often highest in autumn (Gross, 2014), the season I was most frequently on-site.

Rossman (1960) observed milksnakes with greater frequency than black kingsnakes. He recognized the unusual nature of his data remarking that it "is markedly reversed in the adjacent parts of southern Illinois." That milksnakes could readily be detected historically at LPH is evidenced by a one-day collection (15 June 1946 or 1947) of three specimens at "Pine Hills Recreation Area" by Minton and Minton (1948). Ballard (1994) did not encounter milksnakes despite searching beneath cover objects and trapping at drift fences. I did not encounter milksnakes until September 2014, when I found one on Snake Road. I subsequently found two more on the road in September 2015. I observed twice as many black kingsnakes as milksnakes. It is difficult to interpret these conflicting data among surveys. Survey bias, stochasticity, or other factors may have played a role, particularly since both species spend the majority of their time underground or under cover objects (Howze and Smith, 2012; Row and Blouin-Demers 2006).

There has been an upward trend in observations of western ribbonsnakes over time (Table 3). Rossman (1960) noted that western ribbonsnakes were "infrequently seen," whereas they represented almost 4% of Ballard's (1994) snake observations and nearly 7% of mine. A similar increasing trend is apparent

Figure 2. Cottonmouth, *Agkistrodon piscivorus*.

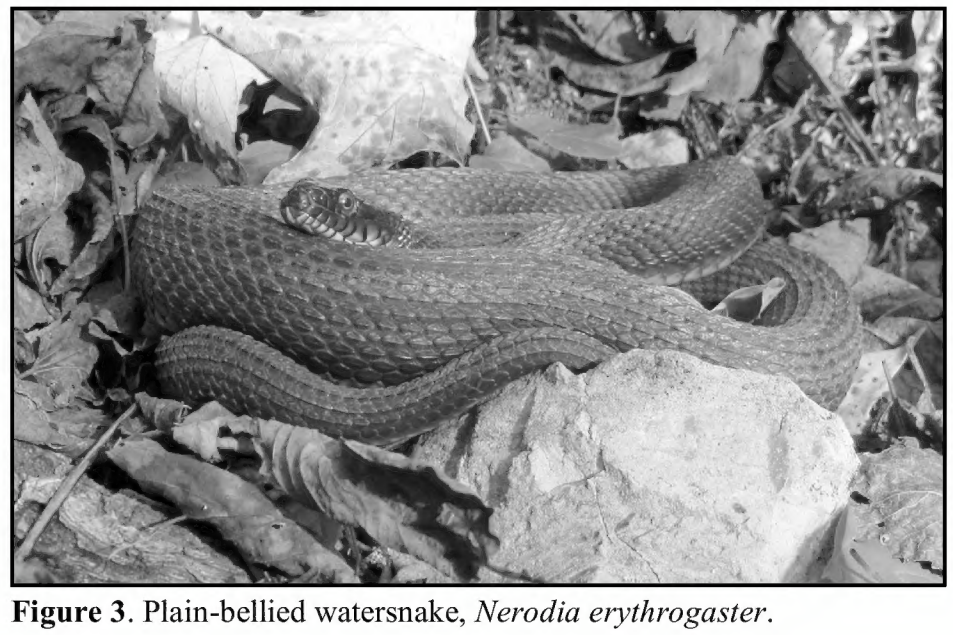

Figure 3. Plain-bellied watersnake, *Nerodia erythrogaster*.

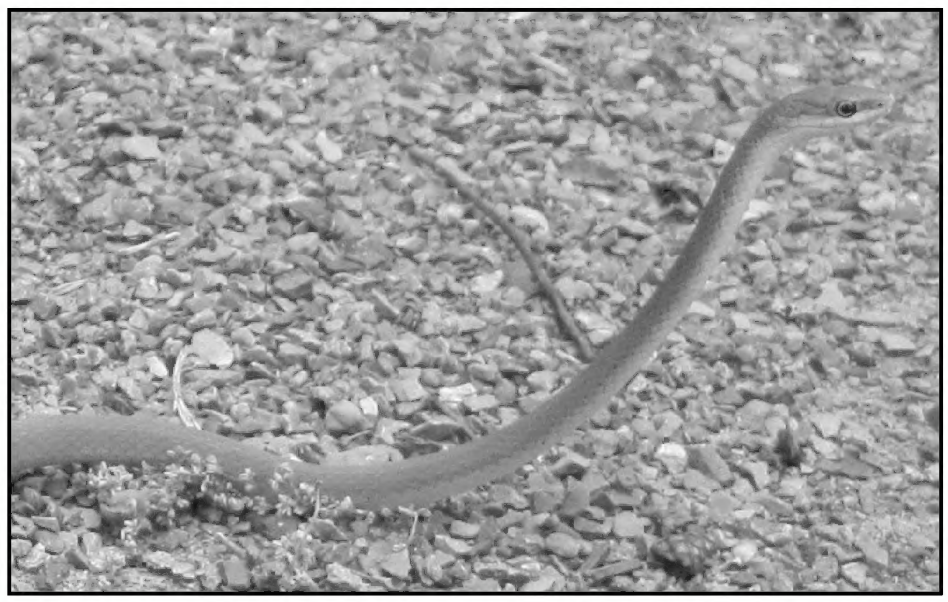

Figure 4. Rough greensnake, *Opheodrys aestivus*.

Figure 5. DeKay's brownsnake, *Storeria dekayi*.

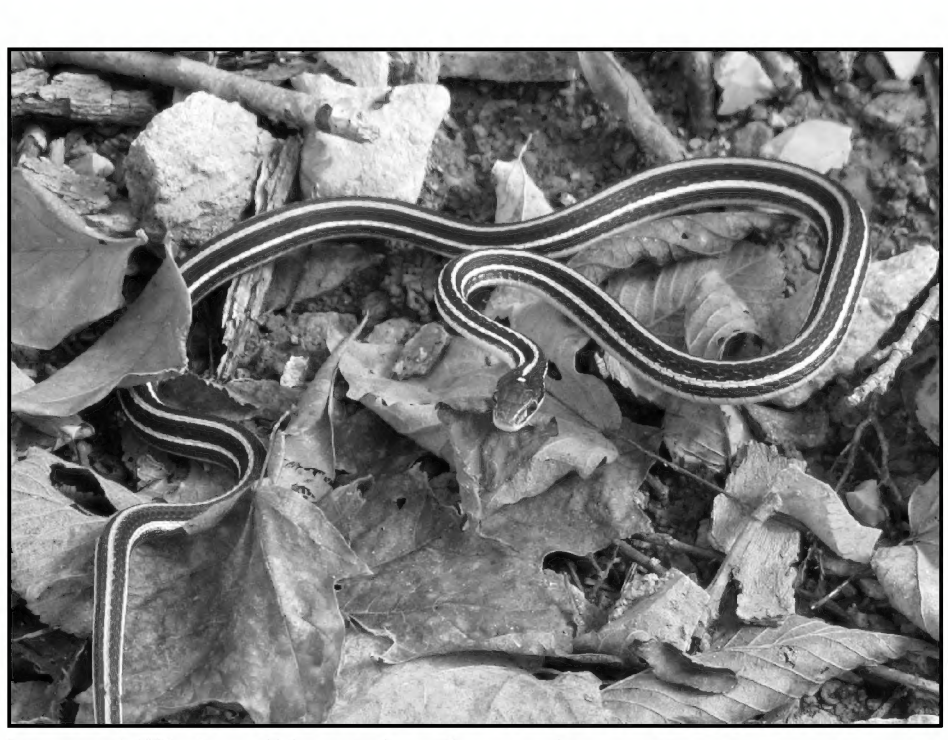

Figure 6. Western ribbonsnake, *Thamnophis proximus*.

Figure 7. Eastern black kingsnake, *Lampropeltis nigra*, constricting a cottonmouth, *Agkistrodon piscivorus*. Note that the cottonmouth is biting the kingsnake.

All photographs taken on or near Snake Road by the author.

Table 5. Number of alive and dead snakes observed on Snake Road at LaRue-Pine Hills/Otter Pond Research Natural Area, Union County, Illinois, in early November (9 November 2013, 10 November 2014, 3 November 2015, 10 November 2015, and 12 November 2015).

Snake species	Alive on road	Dead on road
Agkistrodon piscivorus	2	0
Diadophis punctatus	1	0
Opheodrys aestivus	1	0
Storeria dekayi	7	7
Storeria occipitomaculata	0	2
Thamnophis proximus	0	1
Virginia valeriae	4	1
Total	**15**	**11**

when comparing observations of rough greensnakes over time (Table 3). Whether these trends relate to increasing population sizes in these two species is, of course, unknown. There are no clear temporal trends in observation frequency for the remaining species (North American racers, red-bellied mudsnakes, gray ratsnakes and common gartersnakes).

Two species—scarletsnakes and flat-headed snakes—are notably missing from all three surveys. Both species are historically known from the LaRue-Pine Hills area. One scarletsnake specimen (originally identified as a milksnake) was collected at Wolf Lake (just south of Otter Pond) by Cagle in 1942 (Bennett, 1953). No additional Illinois specimens have been observed since then. This single Illinois scarletsnake record has been problematic for Illinois herpetologists. Smith (1961) accepted the record as valid, but Morris et al. (1983) doubted the legitimacy of the observation. Phillips et al. (1999) considered the scarletsnake's occurrence in Illinois "questionable" and they noted that repeated surveys have failed to yield additional specimens.

Smith and Burger (1950) collected the first flat-headed snake specimen from Pine Hills in June 1949. Although not observed by Rossman (1960), Ballard (1994) or myself, flat-headed snakes were observed at LPH in the early 1960s (Ozment, 1967) and are rumored to still occur at LPH. I have talked with people on Snake Road who have, or know someone who has, seen flat-headed snakes in recent years. Whether flat-headed snakes are truly rare at LPH or just difficult to detect is unknown.

Overall, it appears that the 1996–2015 snake community at LPH is similar to the snake communities described by Rossman (1960) and Ballard (1994). With the exception of gradual mesification of the forest due to fire suppression, and episodic wind or ice damage to the forest canopy, the plant community of the area appears to have remained relatively stable since the latter half of the 1950s (Ballard, 1994). A relatively stable environment could contribute to a relatively stable snake community.

The number of snakes protected by the spring and fall road closures is unknown. However, a previous report (Dyrkacz, 1973) and examination of my snake-on-road observations in early November—when the road is open to vehicular travel—suggest that it may be substantial. Dyrkacz (1973) reported having encountered 19 cottonmouths on Snake Road in two days in April 1972; 10 were alive (52.6%) and 9 were dead (47.4%). I walked the road five times in early November, 2013–2015, and observed 26 snakes on the road, 42% of which were dead (Table 5). The actual kill-rate is unknown since snakes that crossed the road safely before my arrival were not detected. However, the number of dead-on-road snakes observed in early November indicates that the road is re-opened too soon to protect all snakes crossing Snake Road in autumn. It may be advisable, therefore, to extend the road closure date further into November.

If you go . . .

If you decide to visit southern Illinois to walk Snake Road, I offer advice and have a few requests. First, leave your collecting equipment (i.e., snake hook, tongs, bags, etc.) at home. Snakes at LPH are off limits to handling. Walk slowly, especially in the autumn after leaf fall, and examine the roadsides as well as the near and distant road surface. Binoculars are useful to locate and identify snakes at a distance. Watch your step; I have encountered two dead snakes (one neonate plain-bellied watersnake and one adult DeKay's brownsnake) and several newts (*Notophthalmus viridescens*) inadvertently crushed by passersby on the closed road. A flashlight is handy when peering into crevices of the limestone bluffs near the road or if you stay later than planned.

When you drive in, especially if you enter the circle parking area at Winter's Pond, please watch for snakes. I have seen several freshly road-killed snakes at this parking area when Snake Road is closed. I also request that you practice "no trace" herping. That is, if you roll a log or turn a rock please return it as closely as possible to its original position. The microhabitat beneath cover objects takes considerable time to develop and displacing logs or rocks from their original position diminishes the value of the subsurface habitat to herpetofauna and other animal life (Pike et al., 2010). In my experience, turning cover objects is really not necessary to observe most snakes at Snake Road since they are so frequently out in the open during migration. Finally, please keep track of what you see and consider sharing your observations as I have done with mine. Our combined observations may be valuable in understanding the temporal dynamics of the snake community at LPH. Use of occupancy-modeling techniques may be especially helpful for future comparisons of the snake community at LPH (Mazerolle et al., 2007).

Acknowledgments

I have enjoyed the company of numerous individuals at Snake Road over the years. Some of these were "fast friends," people I met for the first time and with whom I walked the road. One such individual, long-time CHS member and *Bulletin* editor, Mike Dloogatch, is now a friend with whom I enjoy annual snake walks. My most frequent companions (> 10 walks) have been Forrest Palis and Erin Palmer. I appreciate their companionship and indulging my fascination with snakes. I thank Scott Ballard for sharing his thesis with me; Mike Dloogatch and Steve Sullivan for providing difficult-to-obtain references; my neighbor, Brent Boyd, who drove me to Snake Road in January 2008 to show me some of the winter-active snakes he discovered earlier that day; and Andrew Durso for insightful editorial comments and for sharing literature. I also thank Andrew Durso and Matt Whiles for advice. I dedicate this work to the memory of Douglas Rossman.

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Mudpuppy (*Necturus maculosus*) Records from Michigan's Upper Peninsula

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Introduction

With the availability of outstanding regional field guides (Harding, 1997; Harding and Holman, 1992, 1999) and a comprehensive reference to the state's herpetofauna (Holman, 2012), it might appear that Michigan's amphibians are relatively well known. To date, however, there has been no statewide survey of this state's amphibian populations. The Michigan Frog and Toad Survey initiated in 1988 and expanded in 1996 has begun to address this information gap for anurans (Sargent, 2000; Michigan DNR, 2015), but no similar efforts have been made to understand salamander populations in the state.

The mudpuppy (*Necturus maculosus*) is a species for which relatively little information has been collected, population declines are suspected (Lanoo, 1998; Holman, 2012), and periodic mass die-offs have been observed (Michigan DNR, 2007; Gillies, 2009; Kalish, 2012). Mudpuppies are considered a "species of greatest conservation need" in Michigan's Wildlife Action Plan (Eagle et al., 2005), a document which suggests that the mudpuppy's "distribution and population status needs to be determined." Available range maps for this species (Harding, 1997; Harding and Holman, 1992, 1999; Holman, 2012) appear to be generalized to encompass likely as well as documented occurrences. With such an approach, all 15 Upper Peninsula counties (Figure 1) fall within the species' range based on documented distributions in surrounding areas (Casper, 1996; Moriarty and Hall, 2014; Ontario Nature, 2015; Watermolen, 2015). Yet, the data used in developing the Wildlife Action Plan result in only a handful of scattered occurrence records in the Upper Peninsula (Eagle et al., 2005), and some of those records are not the result of recent observations or collections. Clearly, there is a need to better understand the nature of this species' distribution and populations in the region.

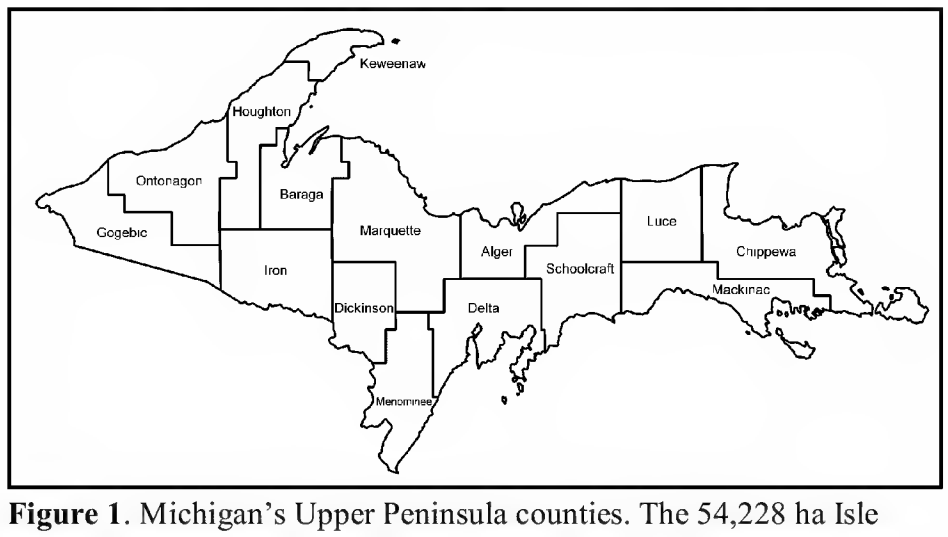

Figure 1. Michigan's Upper Peninsula counties. The 54,228 ha Isle Royale National Park, a part of Keweenaw County, is located across Lake Superior near its western shore approximately 22 km east of Thunder Bay, Ontario.

To help begin remedying this situation, I reviewed available literature, examined records in publically accessible databases, and solicited additional reports from colleagues. These efforts confirmed and supplemented previously published descriptions of the species' range. Data from these efforts are summarized here and provide a more nuanced understanding of what is known currently about this species' distribution in the Upper Peninsula.

Data Sources

I consulted various databases in my assessment of Upper Peninsula mudpuppies. AmphibiaWeb (http://amphibiaweb.org) provides an online system for searching and retrieving information related to amphibians. Individual species accounts can be queried for distribution and specimen data. The website includes a mapping tool that combines museum specimen data with expert opinion range maps and overlays these onto larger maps that allow visualization in various formats. Similarly, VertNet (www.vertnet.org), a National Science Foundation-funded

collaborative project, makes biodiversity collection data available. Currently, 171 institutions (museums, universities, government agencies, etc.) make specimen data available through VertNet. The University of Michigan Museum of Zoology maintains a specimen collection of nearly 200,000 cataloged lots, as well as smaller collections of radiographs, slides, and frozen tissue samples. The data associated with this material can be searched online (http://quod.lib.umich.edu/a/amph3ic?page=index). The Michigan State University Museum's herpetology collection includes over 18,600 specimens, tanned skins, and skeletons. Specimen records are searchable through various web portals (http://museum.msu.edu/?q=node/135). Records from both university collections are contributed to VertNet. The Michigan Herp Atlas (www.miherpatlas.org) began to collect observation data about Michigan's amphibians and reptiles in 2004 and now provides a statewide, publicly accessible database. As of July 2015, the Atlas includes over 8,700 records. HerpMapper (www.herpmapper.org) is a relatively new global atlas and data hub that accepts "catch and release" data from volunteer contributors. Data in HerpMapper are publically viewable to the county level. Finally, iNaturalist (www.inaturalist.org) is an online social network that allows people to share biodiversity information and help each other learn about nature. A crowdsourced species identification system and an organism occurrence recording tool allow users to view observational data collected by others. Between 27 and 31 July 2015, I extracted and reviewed all mudpuppy records from Upper Peninsula counties available in these online resources. HerpMapper had no mudpuppy records from this area and iNaturalist had only a single observation, but the other sources contained information on voucher specimens and observations from the region. I compared these to available literature records, including local press accounts, and other reports.

Upper Peninsula Distribution and County Records

Mudpuppies occur throughout Michigan's Upper Peninsula in suitable habitats. They can be found in lakes Huron, Michigan, and Superior, as well as their major tributary streams. Hoy (1882) considered them "especially numerous in Lake Michigan," and fisheries managers and commercial fishers regularly encounter them today in both the lake proper and Green Bay (D.J. Watermolen, unpublished data). Within Lake Superior, mudpuppies congregate in river mouths and harbors where warmer water and higher biotic productivity occurs (Casper, 2002). Anglers occasionally take them in the nearshore and shallow waters of the lake. Most mudpuppy records from Lake Huron are from the eastern part of the lake, but they are also reported from the St. Marys River and associated western Lake Huron islands (e.g., Warburton, 1950; Eshenroder, 1987). Mudpuppies can also be found in reservoirs and inland lakes. They have been collected or observed in most months.

Records derived from the various data sources are presented below for each county. Collection numbers for voucher specimens are included parenthetically and the acronyms designating the collections are defined in the Appendix. References to "general reports" in the county discussions refer to reports and mapped locations that cannot be traced clearly back to voucher specimens, literature citations, or unpublished data referenced in the given work. This does not necessarily mean that the records are not substantiated; only that it will be necessary to correspond with the respective authors and/or their institutions to determine the sources of such records. Harding (1997), Harding and Holman (1992, 1999), Matson (2005), and Holman (2012) provide general records for all 15 counties and are generally not mentioned in the county discussions. Similarly, all of the general records of Herdendorf et al. (1981) from the area appear to be based solely on the work of Johnson (1965) and Pentecost and Vogt (1976) and are therefore omitted.

Alger—Published records from this county include general reports by Ruthven et al. (1928) and Pentecost and Vogt (1976), Casper's (2005) discussion of the herpetofauna at Pictured Rocks National Lakeshore, and a checklist listing mudpuppies as "likely present" at Pictured Rocks (Gostomski, 2013). Newman (2003) failed to collect mudpuppies in the nearshore area at Pictured Rocks during May, July, and September–October 2002 sampling efforts, likely due to the methods he employed. Eagle et al. (2005) depict point data showing a couple of documented locations of the species in Alger County. Three voucher specimens were collected in the county in July 1916 (UMMZ 48539, 48540, and 48541), an additional voucher was collected in August 1931 (UMMZ 83878), and seven more were collected in July 1958 (UMMZ 118845, 118850, 118851, and 118852). The Michigan Herp Atlas includes two recent records, including a photograph of a juvenile specimen taken in May 2012. iNaturalist includes a May 2012 observation of a single juvenile mudpuppy in Grand Sable Lake. This appears to be the same record included in the Michigan Herp Atlas. The iNaturalist account also mentions National Park Service and U.S. Fish and Wildlife Service biologists taking a mudpuppy in a gill net in Grand Sable Lake in September 2011 and a National Lakeshore employee catching one in the lake in about 1982. Both the Michigan HerpAtlas and iNaturalist accounts include a photo voucher of the 2012 specimen.

Baraga—Published records from this county include a general report by Pentecost and Vogt (1976). Eagle et al. (2005) depict point data showing documented locations of the species. A single voucher specimen collected in August 1958 (UMMZ 118844) is available from this county, apparently the basis for Pentecost and Vogt's (1976) report.

Chippewa—Published records from this county include a report of mudpuppies dying after lampricide treatments were carried out on the Tahquamenon River (Gilderhus and Johnson, 1980), and a discussion of their occurrence in the St. Marys River (Eshenroder, 1987). Holman (2012) also reports mudpuppies from Drummond Island, and they have been collected at other islands in the area (e.g., Warburton, 1950). Eagle et al. (2005) depict point data showing several documented locations of the species. Voucher specimens collected in March 1938 (UMMZ 83272), July 1953 (UMMZ 132067 and 132068), and on an unknown date (FMNH 121067) are available.

Delta—Published records from this county include a general report by Pentecost and Vogt (1976). Eagle et al. (2005) depict point data showing a couple of documented Delta County locations for the species. Voucher specimens collected in August 1958 (UMMZ 118847 and 118848) are available. The Michigan

Herp Atlas includes a February 2012 record.

Dickinson—Published records from this county include general reports by Ruthven et al. (1912, 1928) and Pentecost and Vogt (1976). Eagle et al. (2005) depict point data showing several documented locations of the species. Voucher specimens collected in August 1909 (UMMZ 40321), October 1954 (UMMZ 111533), October 1955 (UMMZ 113420), and October 1961 (UMMZ 123579 and 123580) are available. The 1909 specimen appears to be the basis for the Ruthven et al. (1912) record for this county.

Gogebic—Evans (1915), Boyd and Hollis (2001) and Francl (2005) reported no mudpuppies in their surveys of Gogebic County, largely due to the sampling methods they employed. Johnson (1965) notes the lack of reports from the county at the time of his work. Published records from this county include the general report by Pentecost and Vogt (1976). Mudpuppies are present at the University of Notre Dame's Environmental Research Center (UNDERC, 2015), and Eagle et al. (2005) depict point data showing a couple documented locations for the species. A single voucher specimen (UMMZ 126601) was collected from this county in October 1963. A local newspaper account mentions a 10-inch long mudpuppy caught through the ice on Lost Lake in Ironwood Township (Anonymous, 1936, 1956). At least three lakes in Gogebic County were previously named Lost Lake. This account likely refers to the one now known as Spirit Lake. Interestingly, this report refers to the species as "a form of lizard and quite rare in the region."

Houghton—Voucher specimens attributed to this county are available from Torch Lake (MCZ A-4708), Portage Lake (USNM 7008 and 277337), and an unspecified locality (UMMZ 63134). Ruthven et al.'s (1928) general report from this county appears to be based on these earlier records. These museum specimens, however, are somewhat problematic. It is unclear if in fact the Torch Lake specimen came from this county. The Keweenaw Waterway cuts across the Keweenaw Peninsula separating Copper Island from the mainland and connecting to Lake Superior at both its entries. Parts of this waterway are known as the Portage Canal, Portage Lake Canal, Portage Lake, and Torch Lake. In spite of this Torch Lake occurring in Houghton County and the VertNet specimen entry stating "near Houghton," Dunn (1918) lists the Torch Lake specimen (MCZ 4708) and another specimen (MCZ 2447) as being from Antrim County. Michigan's second largest inland lake, another Torch Lake, is located in Antrim and Kalkaska counties in the Lower Peninsula. Further, Dunn (1918) lists an additional specimen (MCZ 4271) from Northport, a village that is located not far away from the Lower Peninsula Torch Lake in adjacent Leelanau County, further suggesting that perhaps this voucher has been misattributed to Houghton County. The collection date of the Torch Lake specimen is unknown, but certainly extends back into the late 1800s as museum catalog information available through AmhibiaWeb shows the specimen was collected by the great naturalist Alexander Agassiz and was received at the Museum of Comparative Zoology in November 1890. Yarrow (1882) lists the Portage Lake specimens (7008) but with minimal collection information; he includes only the lake name and the collector. He also lists a specimen from Lake Superior (USNM 7007). However, Hecht and Walters (1955) listed this latter specimen as being from Lake Winnipeg, not Lake Superior.

Iron—The only published records I could find from this county are what appears to be an unverified record (an open circle rather than a filled dot like other records) reported by Ruthven et al. (1928) and the general reports by Harding (1997), Harding and Holman (1992, 1999), Matson (2005), and Holman (2012). I found no vouchers from this county.

Keweenaw—Yarrow (1882), Cope (1889), Ruthven (1909) and Ruthven et al. (1912) reported mudpuppies from Isle Royale National Park (USNM 7006), and in the first two cases, Lake Superior (USNM 7007). Several voucher specimens are available from Isle Royale (USNM 7006 and 277336), with limited accompanying data. Additional juvenile specimens were collected from the main island's Summer Lake in July 1905 (UMMZ 33512). Casper (2008) listed these records, but questioned their legitimacy because some of the vouchers have been badly damaged making accurate identification impossible. Further, a careful examination of the specific locality and collection data associated with all of the specimens raises several important questions. All of the reports of mudpuppies from Isle Royale, including Johnsson et al.'s (1982) report from Summer Lake and the reports by Ruthven et al. (1928) , Johnson (1965), Harding and Holman (1992, 1999), Casper (2002), Eagle et al. (2005), and Holman (2012), appear to be based on these older historic records. Shelton (1975) considered the mudpuppy's occurrence on Isle Royale to be questionable, and Casper (2008) labeled the mudpuppy's status in the National Park as "uncertain." It is reasonable to suspect that mudpuppies do occur there. Reliable records are available from a short distance away in the Thunder Bay area (ROM 9122, 9929; Ontario Nature, 2015) and from further south in Lake Superior at the Apostle Islands (Hecnar et al., 2002; D. J. Watermolen, unpublished data). The voucher specimens attributed to Portage Lake, Houghton County (USNM 7008 and 277337), could possibly be the source of early published reports from Keweenaw County's mainland since the lake borders both counties.

Luce—Published records from this county include general reports by Ruthven et al. (1928) and Pentecost and Vogt (1976). Eagle et al. (2005) depict point data showing three documented locations of the species. Six voucher specimens collected in May and June 1925 (UMMZ 61705, 61772, and 61773) are available.

Mackinac—Published records include Bishop's (1943) statements that the poorly described and no longer recognized subspecies *N. m. stictus* is "known from" (p. 27) or "probably from" (p. 43) the county, Diana et al.'s (1997) record of double-crested cormorant (*Phalacrocorax auritus*) predation in Les Cheneaux Islands, and a general report by Pentecost and Vogt (1976). Six voucher specimens collected in July 1926 (UMMZ 240706), August 1929 (UMMZ 83877), September 1937 (UMMZ 82104), and July 1953 (UMMZ 132066) are available from this county. Local newspaper accounts mention a mudpuppy being caught in Manistique Lake. Rood (1973) tells how one "swallowed his minnow and was hauled to the surface" in his report on an outdoor writers convention that took place "in Newberry and environs." Although Newberry is in Luce County,

Anonymous (1973) further describes how the writers went ice fishing "on Big Manistique Lake near Curtis."

Marquette—The only published records I could find from this county are the general reports by Harding (1997), Harding and Holman (1992, 1999), Matson (2005), and Holman (2012). Werner (1973, 1975) includes no mudpuppies in his reports on the herpetofauna of the McCormick Forest, likely due to the sampling methods he used, and Johnson (1965) notes a lack of records from the county at the time of his work. I found no vouchers from this county.

Menominee—Published records from this county include a general report by Pentecost and Vogt (1976) and Watermolen's (1996) report of osprey (*Pandion haliaetus*) predation along the Lower Menominee River. Mudpuppies occur above and below the N.E.W. Hydro dam on the Lower Menominee (D. J. Watermolen, unpublished data), and Herdendorf et al. (1981) consider them common in this river. Throughout the 1980s and 1990s, mudpuppies were taken in sea lamprey traps set in the Lower Menominee and healthy populations are believed to remain below the first dam (W. J. Johnson, University of Wisconsin-Marinette, personal communication). Eagle et al. (2005) depict point data showing several documented locations of the species in this county. Voucher specimens collected in October 1954 (UMMZ 111531 and 111532) and July and August 1959 (UMMZ 120365, 120366, 120367, and 120368) are available. The Michigan Herp Atlas includes a more recent record from April 1993, and the Menominee County species list in iNaturalist includes a mudpuppy record. A local newspaper account mentions an 11-inch long mudpuppy caught at White Rapids being placed on display upstream in a Norway storefront (Anonymous, 1930), and another press account tells of an angler catching a mudpuppy along the Wisconsin side of the Menomonee River (Bachay, 1966). Wendel Johnson (personal communication) notes that mudpuppies caused quite a local sensation when they turned up in nets during the spring smelt (*Osmerus mordax*) spawning runs that occurred in the Menominee.

Ontonagon—The only published records I could find from this county are the general reports by Harding (1997), Harding and Holman (1992, 1999), Matson (2005), and Holman (2012). Ruthven's (1904) early report includes no records of mudpuppies in the county, and Johnson (1965) notes the absence of reports at the time of his work. I found no vouchers from this county.

Schoolcraft—Published records from this county include Gaige's (1915) collection of an immature specimen in the Manistique River and general reports by Ruthven et al. (1928) and Pentecost and Vogt (1976). Eagle et al. (2005) depict point data showing documented locations of the species. A checklist of amphibians and reptiles found at the Seney National Wildlife Refuge (USFWS, 2011) lists the mudpuppy, but characterizes its "ordinal abundance" as "unknown." Voucher specimens collected in July 1915 (UMMZ 47362), August 1937 (UMMZ 82087), and June 1956 (UMMZ 121020) are available. The Michigan Herp Atlas includes a more recent record from August 2012. A local newspaper account mentions a mudpuppy being caught in Big Murphy Creek on opening day of trout season in May 1977 (Rood, 1977).

Conclusions

The records and discussion presented above demonstrate that the mudpuppy occurs throughout the Upper Peninsula in suitable habitats as reported previously. Most records, however, are more than 40 years old, with several dating back 100 years or more. Voucher specimens appear to be unavailable from three counties. Some of the historic records are perhaps questionable due to damaged vouchers and inconsistencies in how the specimens have been reported in the literature. Relatively few recent (<20 years old) Upper Peninsula records are available and those that are remain inadequate for establishing baseline population measures. The most reliable current data appear to be those mapped by Eagle et al. (2005), but some of their records are clearly based on the older reports/vouchers and have not been corroborated recently.

The Michigan Herp Atlas Project, HerpMapper data hub, and iNaturalist social network provide convenient means for citizens to report their observations of mudpuppies. Fish survey crews and water quality investigators could add greatly to our knowledge if they tracked and reported their observations of this species incidental to their primary work. Local news media occasionally mention mudpuppies in outdoor reports and feature stories. Although anecdotal in nature, these independent observations can corroborate interpretations derived from more formal records. Viewing the results of all of these sources together provides a much more nuanced understanding of this species' distribution and abundance.

Although not a comprehensive bibliography for the area, the literature cited here provides a solid starting point for those wishing to investigate the Upper Peninsula's herpetofauna. It is hoped that this summary might inspire such efforts and that we may develop a better understanding of distribution patterns and population trends for all species occurring in the region.

Acknowledgments

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Appendix: Collection Acronyms Used in County Reports with Internet URLs for Collection Related Metadata*

FMNH Amphibian and Reptile Collection, Field Museum of Natural History, Chicago, IL
http://fmipt.fieldmuseum.org:8080/ipt/resource.do?r=fmnh_herps

MCZ Museum of Comparative Zoology, Harvard University, Cambridge, MA
http://digir.mcz.harvard.edu/ipt/resource.do?r=mcz_subset_for_vertnet

ROM Herpetology Collection, Royal Ontario Museum, Toronto, ON
http://gbif.rom.on.ca:8180/ipt/resource.do?r=herps

UMMZ Herpetology Collection, University of Michigan Museum of Zoology, Ann Arbor, MI
http://ipt.vertnet.org:8080/ipt/resource.do?r=ummz_herps

USNM National Museum of Natural History, Smithsonian Institution, Washington, DC
http://ipt.vertnet.org:8080/iptstrays/resource.do?r=nmnh_herps

* For a complete list of institutions contributing to VertNet, see http://portal.vertnet.org/publishers

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The Monster of the Decade

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On 23 November 2015, it was my privilege to enter the wilds of Arizona with a stalwart member of the Chicago Herpetological Society. We speak of the renowned herp vet and all around good guy, Dr. Gerhardt Herrmann, known to most of us as Gery. The herping was great this day, as was the company. One fine day, I hope to devote a column about it, but find myself lacking a title. "Frolicking with Gery" comes to mind, as does "Gery and Roger Herp Arizona," or "November Herping with My Chum Gery." Perhaps "Herrmann the German Takes a Holiday?" Needless to say, until a better title comes to mind, most of what happened on this glorious fall day will remain in my notes, photographs and memories.

But at the end of this day, while saying our good-byes, Gery said something so horrible that I hesitate to even quote him. He *must* have been joking when he said it, but there was conviction in his voice. I think he meant every word of it. The grim magnitude of it all frightens me so much that I can scarcely type it out. Perhaps if I close my eyes, I can quote him with minimal disturbance to the force. I'll try that. He said "Thks dk md lsdt jerp reyb unrsl nesr soenm." Well, shoot, that's not what he said at all—but it's better than what he *actually* said. I'll just have to man up and do this awful thing with my eyes wide open. What he really said was "This is my last herp trip until next spring." And then he left me all alone to fathom the meaning of that statement. His last herp trip until next spring? What a *ghastly* notion! Was he going to jail or something? What powerful force was going to keep him from the very essence of life itself? No herping for five months? Really? Deep feats of thinking then ensued, with two results: a migraine headache, and the sudden realization that there was this god-awful thing called winter where Gery lives. Of course! It *had* to be that enemy of all things ectothermic. What else could possibly keep an otherwise sensible person like Gery away from the only thing that makes life worth living?

With any luck at all, this column will appear in the January 2016 issue of the *Bulletin*. Most of the readers of this column are in the thick of a Chicago winter. It occurred to this author that if he is not extremely careful here, he could easily appear to be rubbing your collective noses in the frozen tundra that surrounds you. As this is not my intent, it is well that I just deleted that sentence that stated you may wish to shovel the snow off your roofs before reading this column, lest your roof come crashing down on your heads. You Windies are a tough breed of hardy folk for sure.

While I almost feel like apologizing for what I say next, it should be said nevertheless. The latter days of November are not an end to the herping here. The best stuff is just beginning then. I usually wait until the day after Thanksgiving to start making my winter rounds. Experience has taught me that to go out any earlier is to risk spooking any early arrivals away. It is better to let them settle in a bit before showing them my ugly face. To give the reader an indication of what has been found since the day after Thanksgiving 2015, I offer the following account. I have been out eight times, the last trip of this accounting was 10 January 2016. Nine Sonoran Desert Tortoises (*Gopherus morafkai*), 24 Western Diamond-backed Rattlesnakes (*Crotalus atrox*), two Tiger Rattlesnakes (*Crotalus tigris*), two Black-tailed Rattlesnakes (*Crotalus molossus*), two Western Lyresnakes (*Trimorphodon lambda*), three Chuckwallas (*Sauromalus ater*), four Gila Monsters (*Heloderma suspectum*), and some common lizards not worth mentioning have been found. I often score more herps in January than I do during the active season!

Of all that passes before my eyes during the winter herping season, there is nothing that excites me more than finding a new Gila Monster overwintering hole. They are extremely hard to find, as they often amount to not much more than a tight soil hole under a boulder. While that might not sound overtly difficult, one must keep in mind that nearly *every* boulder on most hillsides has one or more tight soil holes running under it. Any one of these can be a monster hole. At times, the snout of one can be seen flush with the edge of the hole it occupies. But the best way to discover a new Gila hole is to see one out basking, and note which hole that it backs into. Then you got one!

Once I have found a Gila Monster lair, it becomes a game of sorts to get a proper photograph of it for identification purposes. Of course, I could just haul it out of the hole to get that picture. I have permits to do this, and back when I was doing radio telemetry with them, I on occasion did so. But the few times I did that, the monster would leave that hole, and not return for years—if at all. A Gila Monster hole is too special and far too difficult to find to squander the opportunity by such cretinous actions. My vow to the moon and stars these days is to *never* pull a Gila Monster from its winter lair again. If I am to get a good identification image, I will do it the hard way.

Using this method is indeed the hard way. Getting a good image of a Gila Monster at its winter lair is challenging. They are *extremely* wary, and apt to back out of sight at the slightest disturbance. One mustn't forget that they have ears. A group of chattering herpers has no chance whatsoever at catching a Gila Monster out during this time period. I have learned to be quiet when approaching a known hole, and anybody who may be with me will be issued a gag order once we are within 30 meters of our quarry. Knowledgeable physiologists insist that due to the diminutive size of their beady little eyes, they must not be able to see very well. While I can't prove them wrong, I can say with assurance that they have seen me coming from over 30 meters away, and they have subsequently backed into their lairs with great haste as a result. When approaching a known monster hole, I always keep cover between me and that hole. As I want every possible edge, I also dress in full camouflage. Before I get to that last piece of shrubbery that will hide me from the monster, my camera is already at the proper setting. I know that once I pop into view, I will have less than three seconds to get that image.

There are two good reasons to get a good image of a Gila Monster at its winter lair. The first reason, of course, is the pure artistry of it all. There are few things more worthy of the snap of a camera shutter than that gaudy orange and black charismatic icon of the Sonoran Desert sprawled in front its lair (Figure 1). The second reason for the good photo is, as previously mentioned, for identification purposes. Like several other species of reptiles around Tucson, Gila Monsters will demonstrate fidelity to their winter lairs. In extreme cases, they may keep returning to that same lair for over ten years—or longer. As we really don't know exactly how long a Gila Monster can live in the wild, photographic proof of the same individual using the same hole over a given period of time is certainly a step in the right direction.

A good example of what can happen the day after Thanksgiving transpired on 26 November 2000. On this day, I was to meet Gordon Schuett and Bill Montgomery, who was visiting from Texas, at high noon. The day dawned warm, clear and bright, and it was ascertained that there was no sense whatsoever in waiting until noon before beginning the festivities. Hence, I bopped off to my super secret herp spot to see what was shaking before meeting up with them. No way was I going to share my super secret spot with these guys, as then it would no longer be a super secret spot. Alliances with herpers are a fickle affair, best treated with heavy doses of pragmatism. A super secret spot loses its lofty status the second that it is shared with others.

Following a great but brief experience at the super secret spot, I met Mr. Schuett and Mr. Montgomery feeling absolutely capital. I already had an atrox, two tortoises, and a basking Gila Monster under my belt. Life was good, but it was about to get better. The three of us piled into my dinky but gritty Toyota Tacoma pickup truck (two in the cab, one in the bed), and assailed a two-mile-long stretch of rugged dirt road that led to a place that we have named "Hill 97." The road to Hill 97 is so rough that no snake could crawl lengthwise on it without breaking its back. Upon emerging from the truck, we compared bumps and developing bruises as though they were badges of courage. We then began up the hill, and now pause in the narrative for this author to regale the reader about some of the finer nuances of Hill 97, as well as our purpose for being there on this day.

Figure 1. A Gila Monster taking a nap just outside its overwintering shelter. Image by Marty Feldner.

Hill 97 is a fairly steep outlier hill, close to but not in any way directly connected to a vast range of low elevation rocky ridges and undulating terrain that has been named "96 Hills." While it is unclear if there are actually 96 different hills contained in the framework of this remote range located in south-central Pinal County, there could easily be that many. I certainly don't have the time to go around counting the hills under my watch. Hence, I am forced to trust others in this regard, and am willing to accept their number as 96. Somewhere close to that massive rippling mess, a hill stands alone, separated by hundreds of meters of bajada. Assuming the idiot who counted these hills was correct with their number, it would stand to reason that any hill close to the 96 others would be number 97. Hence, we named this eminence "Hill 97." We could have named it many things. "Beehive Hill" would be extremely accurate, as vast swarms of bees issue from every favorable orifice there. Thanks to that migratory outbreak of 27 hives of the so called "killer bees" in Brazil a couple of decades back, not a single honeybee on Hill 97 has ever drawn a tame breath in her life. While our visits to Hill 97 always begin with measured and slow steps going up, our downhill adventures often involve an all out panic-stricken retreat. We always take that first guard bee landing on an eyebrow as a sign to immediately abort. Sadly, any low-lying hillside in southern Arizona that contains vast hives of the nasty, stinging little winged bitches also usually contains dens of atrox. Hence, we could have also accurately dubbed Hill 97 as "Rattlesnake Hill."

Hill 97 is more like a lone, steep ridge than a hill. It rises roughly 120 meters out of the bajada. At no point is it wider than 250 meters, and it is roughly a kilometer long, the length of it going in a north-south direction. The area surrounding it is at an elevation of roughly 940 meters (~3000 feet), which puts it smack dab in the middle of the Sonoran Uplands Thornscrub zone. As such, the loose, crumbly soil contains such plant life as Saguaro cacti, Prickly Pear, Ocotillo, Chain-fruit Cholla, Jojoba, Creosote, and Palo Verde trees—to name a few. From midsection to top, massive formations of granitic metamorphic schist boulders dominate. It is here that the rattlesnake dens and bee caves flourish.

A gang of three of us first explored it on 2 December 1995. That inaugural trip yielded eight atrox: six in one gash-like opening, and two in a crevice. Further exploration through the years uncovered several more atrox dens. On 21 November 1999, Gordon Schuett, Dale DeNardo, Emily Taylor and I visited these dens, and waged an all out war of science on them. Every atrox that we could lay hands on was processed, PIT tagged, bloodwork collected for DNA and hormonal purposes, and then released. This war of science on atrox continued through the spring of 2000. We then agreed to let the place heal. Or so I thought.

Roughly 500 words ago, we left three herpers beginning their ascent of Hill 97 on 26 November 2000. The purpose of our visit was one of peace. We were going to do a post-science checkup of the atrox dens there, as well as show Bill Montgomery a good time in a fabulous place. We had but modest success at the atrox dens, racking up a total of five. While exploring the upper limits of the hill for new discoveries, at precisely 1331

Figure 2. Drawing blood from the caudal vein of a Gila Monster in the field. Image courtesy of Jim and Kathy Bricker.

hours, Bill scored big time.

"Gila Monster!" he hollered. Gordon and I both sprinted uphill in time to see a young adult Gila Monster scramble head-first into a soil hole at the base of a rather substantial boulder formation. Hot diggity damn! In nearly five years of visiting Hill 97, we had not turned up a single Gila Monster. And now, just like that, we see one! Way to go Bill! Catching this Gila Monster was the furthest thing from my mind, and would have been impossible anyhow. By the time we got close enough to do so, it was already in the hole, and was soon over a meter deep. "Let's slow down and really scour this area," I advised, "usually, when you find one, you find more." Exactly four minutes later, at 1335 hours, Gordon spotted the next one. It was facing us, its snout flush with the edge of a rather shallow cleft in a near vertical mini-cliff above the hole that the fist monster had scrambled into. I had all of two seconds to admire the view before Gordon suddenly uttered "I want him!" And with that statement, he thrust his thick, hairy arm into the cleft, and snagged that monster by the throat. Lack-blam, out it came! And then suddenly, it became a matter of "monkey see, monkey do" with me. As Gordon and Bill began to admire the find, I noted that there was a second monster inside that same cleft. Lack-blam again—out came the second one. But this time, it was me doing the grabbing. We now had two Gila Monsters in hand, for what purpose I had no idea. Said purpose became clear a few minutes later.

Unbeknownst to me, Gordon had been working with a gang of other Gila Monster Jedis on a spatial DNA study. They needed Gila Monster blood samples from as many different localities as possible. And they were about to get two samples for their collective hopper from Hill 97. Now that this can of worms has been opened, a brief description of what followed is in order. Bill held the monster in a near-vertical position, with the head high, the tail low, and the entire ventral portion of the body offered toward Gordon. Gordon grabbed the dorsal side of the tail with one hand, and deftly thrust a fine-tipped syringe into the center ventral part of the tail. (Figure 2 illustrates a similar procedure in the field.) Ten seconds later, he had drawn 0.2 milliliters of blood out of the caudal vein. This was transferred into a little vial of pure ethyl alcohol, sealed, and stored in a Ziploc bag. My job was to hold the monster not being processed, and to photo-document the occasion. Once all that was behind us, both lizards were released back into their lair, and off we went to find more.

At 1439 hours, we found one more, which was dug into a tight hole under a boulder above the double monster cleft. We made a few bumbling attempts to dislodge this one, to no avail. We eventually drifted in various directions. At 1530, I doubled back to the lair of the last monster found. It was now on open ground, crawling away from its shelter. By this point, I had had enough of the vampire method of herping, and let it go in peace. That evening, I wrote it all up. My misgivings over it ran deep. I had this to say: "It is my sincere hope that Schuett really needed and will use the bloodwork collected today. We destroyed any chance of long term monitoring of these Gilas. I am betting/predicting with assurance that all four of these monsters will *not* remain for the winter. (I) will monitor."

Exactly one week later, 2 December, my prediction proved accurate. All four monsters were gone. My promise to myself to monitor the situation was also accurate. For four long years, I kept returning to the scene, and each time I did, my heart would sink. No monsters here! Although the situation seemed hopeless, I continued to honor my masochistic vow to monitor these empty Gila holes. And on 4 December, 2004, during a cold, stormy and outright miserable day, I looked into the cleft that Gordon had found that fateful November day four years and nine days previous. The reader can't possibly imagine the rapture that filled my heart when I saw not one, not two, but *three* Gila Monsters stacked like cordwood there. A *triple* Gila Monster hole! Yeah baby, and all was well with the world again! If by now, you Windies have not figured it out, the herping *begins* here just after Thanksgiving! To go on with what followed during the fantastic winter of 2004–2005 would only belabor the point. And in all earnestness, most of it did not happen on Hill 97.

What *did* happen to Hill 97 was that it suddenly harbored a consistent, albeit small, population of visible overwintering Gila Monsters that has lasted until the date of this writing (11 January 2016). Either by pure coincidence, or the fact that the day after Thanksgiving often lands on 26 November, I was on Hill 97 on 26 November 2010. A lone Gila Monster was photographed in the same cleft that Gordon had discovered exactly ten years previous. A comparison of the images taken ten years previous revealed a perfect match with the patterns of the second monster hauled from that cleft (Figure 3).

And just like that, I had ten years of proof that our boy was still around. The streak of my monster of the decade lasted until

Figure 3. Left to right, image of a Gila Monster removed from its shelter for a blood sample on 26 November 2000. This image was taken moments before we released him back into his overwintering burrow. Center image, 26 November 2010—the same monster in the same refugium, exactly 10 years later. Our monster of the decade! Right image, 2 January 2012. Again, our monster of the decade. Look for the following matching patterns between the three images: Butterfly (on the head), a lazy M (above left front shoulder), a ducky (below center of the lazy M), five zits (aft end of the lazy M), Ohio—resplendent with Columbus in the middle (just behind the five zits), and a hand reaching toward the east side of Ohio. Images by the author.

2 January 2012. I have not seen him since, but he could still be lurking out there. I am seeing multiple snouts in multiple holes out there, and any one of them could be him. In any case, 11 years and 37 days of a known Gila Monster using the same overwintering site is my personal record. As the monster of the decade was an adult at the time of capture, we can only guess as to how old he is. I would hazard a conservative guess of a minimum of 15 years old, possibly as old as 20.

I still have a long row to hoe if I'm to ever break any longevity records of our other local monster masters. Brent Martin marked a young adult in 1982, which he recaptured in 1999. Frank Retes has also monitored populations much longer than I have, and may have that 17-year streak beat. Others out there doing this likely exist. If so, they are a quiet bunch. In captivity, they are known to live over 30 years.

But with everything I've heard from others, I have not seen the proof that was just demonstrated with this article. My notes and my photos back everything written here. If the monster of the decade was to show itself tomorrow, I would have 15 plus years on him. There are also other monsters gaining seniority under my watch. For as long as I am able, I will keep at them. I'm not out to impress anybody but myself, and I'm already there. I look forward to what the remainder of the winter of 2016 brings, and live for the hope that I can still keep it at for several more winters to follow.

For now, this here is Roger Repp, signing off from cold and soggy Southern Arizona, where the turtles are strong, the snakes are handsome, and the lizards are *way* above average.

Bulletin of the Chicago Herpetological Society 51(1):20-21, 2016

In Memoriam: Randy "The Frog Guy" Korb (17 November 1954 – 28 October 2015)

Dreux J. Watermolen
Wisconsin Department of Natural Resources
PO Box 7921
Madison, WI 53707-7921

Randall Mark Korb, affectionately known as "The Frog Guy," passed away unexpectedly of an aortic aneurysm on 28 October 2015. He was 60 years old.

Randy grew up exploring the outdoors around Clintonville, Wisconsin. Following high school, he spent many years in the Green Bay-Fox Valley area of northeastern Wisconsin, where he attended the University of Wisconsin-Green Bay (UWGB) and started a family. After his graduation from UWGB, Randy worked in an administrative position at the Bay Beach Wildlife Sanctuary (www.baybeachwildlife.com), where he focused attention on the care and interpretation of exhibit animals, helped support a network of wildlife rehabilitators, and trained and inspired countless volunteers and seasonal staff. It was at Bay Beach where Randy introduced me to some of my first experiences with captive western fox snakes, newly hatched common snapping turtles, and various raptors and waterfowl.

In 1985, the city of Fond du Lac sought advice from Randy on how it might renovate its Lakeside Park Zoo. His consultation with the city parks director included discussions about the value of nearby Lake Winnebago and the need for public education and interpretation facilities. From these initial conversations, the concept of a public aquarium emerged. After visiting with the designer of Milwaukee County Zoo's Lake Wisconsin display and state fisheries managers, Randy concluded that an aquarium on Lake Winnebago had merit and began promoting the idea to local civic leaders. Together with the parks director, he proposed a public aquarium project adjacent Lakeside Park. Fond du Lac officials felt the concept warranted consideration, but another major community project ultimately precluded the idea from moving forward. Randy, however, went on to further assess the feasibility of such an aquarium while earning his M.S. degree at the University of Wisconsin-Stevens Point.

Randy had diverse natural history interests. His affection for amphibians was fostered by his participation in Wisconsin's first statewide Frog and Toad Survey in 1981, an effort that he contributed to over several years. Also in the 1980s, Randy became an early advocate for butterfly gardening, a horticultural hobby that was just then emerging. He and his brother Peter led biologists and tourists to see the monarch overwintering colonies in central Mexico. Later, he developed some of the first butterfly life-cycle kits for distribution to classrooms and nature centers.

As time went on, Randy became more focused on educating children. He developed unique and highly-engaging live animal programs that he delivered in schools, libraries, parks and other venues. The "Frog Guy" gave classroom presentations and conducted teacher workshops in New York, Connecticut, Florida, Ohio, Michigan, Indiana, Wisconsin, Illinois, Minnesota and Iowa. These programs introduced over 120,000 young people to amphibians over the past two decades. The impact of these efforts cannot be easily overestimated and is nicely summed up by Minnesota naturalist Kacie Carlson in a quote that appeared on the Frog Guy's website (www.rkthefrogguy.com):

> Randy brings a fresh, fun, and unique technique to interpretive programs. By encouraging the safe, hands-on interaction with amphibians that he does, he is revealing the lives they lead, relating their existence to those of the audience, and provoking participants to form a connection they may have never had with them... It is certainly a program that they'll remember for a long time and one that might be the turning point for creating next-generation stewards of our natural resources.

Randy simply loved sharing his knowledge of amphibians. In 2001, he produced the guidebook *Wisconsin Frogs: Places to Hear Frogs and Toads Near Our Urban Areas* along with an associated CD of frog calls. In 2009, he authored a children's book set in St. Croix Falls, Wisconsin, where he came to call home in 2007, which tells the story of a gray treefrog that was struck by a car, carefully rehabilitated, and later featured in educational programs. The St. Croix Falls Public Library used this book, *Blinky, A Special Gray Tree Frog*, in its "1,000 Books before Kindergarten" program. More recently, Randy filmed a segment for *Into the Outdoors*, an Emmy-winning television series for kids; part of the "Animal Adaptations" segment explains how frogs survive the harsh conditions of Midwestern winters (http://intotheoutdoors.org/topics/animal-adaptations/).

Among his other accomplishments, Randy served as president of the Wisconsin Audubon Council and Northeastern Wisconsin Audubon Society, co-founded the Gaylord Nelson Audubon Chapter, and was elected to the St. Croix Falls City Council and Polk County Board of Supervisors.

Randy's sense of humor and infectious laugh made him fun to be around. His enthusiasm for frogs, butterflies, and other "lowly" creatures made his love of nature transparent. With Randy's passing, the Upper Midwest has lost a compelling voice for amphibian conservation. The nonprofit organization Save the Frogs! (www.savethefrogs.com) has created a memorial fund to honor Randy's contributions and provide funds for future amphibian educational efforts.

A celebration of Randy's life was held on 1 November 2015 in Osceola, Wisconsin. Randy is survived by three daughters and two sons-in-law, two grandsons, six brothers and two sisters, and a close-knit extended family. He was preceded in death by his parents and a sister.

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Bulletin of the Chicago Herpetological Society 51(1):21, 2016

During the first five years of the Chicago Herpetological Society, Hedda Saltz served on the board of directors in various capacities. These days she is married to Ray Pawley, former curator of reptiles and birds at Brookfield Zoo. Hedda and Ray reside in Hondo, New Mexico. Recently, Hedda has had published a book of poetry, entitled Free Rain*. The book is available through Lulu.com. Two herp-related poems from the book are reproduced with permission here.*

Two Poems

by Hedda P. Saltz

At the Dens Near Capitan Mountain

I'm gambler tense and the wheel is spinning.
I roll my head, loosen up. We're hunting snakes
in Tepee Gulch where only the air's in a hurry.
My walking stick's a putting iron. I swing it right,
tap, left. Above the ridge a turkey vulture kaks,
but I wait for the burr of bones, castanets.

She rests, keeps her secret. The Wizard strides
right over her, her stored diamonds, her lava.
Ten steps behind in blinded grass I tap along,
then draw the wild card, release a coiled song.
A million locusts rise from dry, dead, fields of
corn. I jump away through time. Hemlock,
scattered gold in the sun.

It was just an adventure, but I saw her live eyes,
faultless venom. Sometimes the wind brings it
back. A piece of paper slides across the kitchen
floor. Flooded with adrenalin, I breathe the thirsty
air again and spin, returned to my harlequin, the
flipped coin, that jeweled and lonely heaven.

Oh Damn, A Turtle

on the road.
Stop, stop now, snaps my heart,
a darkish dome is crossing there.
The turtle also brakes and stops.

It stops its quiet crossing, in the
middle of its crossing, to lay on the
other side its urgent, quiet eggs.
She lifts her head to the sun.

It's a green winged day in Michigan.
It's an emerald, soy and cornbaby day.
The ditches are cattailed and turtled.
We drive over her, straddled, stop the
van to see her marching on her
solemn way into the green June day.
A parade of a pond turtle, a solo drum
rolling into the furrowed silence.

Unofficial Minutes of the CHS Board Meeting, December 18, 2015

President John Archer called the meeting to order at 8:10 P.M., at the home of Teresa Savino and Roy Carlson. Board members Rachel Fessler, Ed Huether, and Brandon Ottolino were absent.

Officers' Reports

Recording secretary: Minutes from the November 13 board meeting were read and accepted.

Treasurer: Andy Malawy reviewed the November financial report. *Bulletin* expense was a little more this month due to color on the inside of the October issue.

Membership secretary: Mike Dloogatch read the list of newly expired memberships.

Sergeant-at-arms: There were 23 people in attendance at the November general meeting.

Committee Reports

Shows:
• Notebaert Nature Museum, first full weekend of each month.
• Chicago Outdoor Sports Show, Rosemont Convention Center, January 20–24.
• Chicagoland Fishing, Travel and Outdoor Expo, Schaumburg Convention Center, January 28–31.
• Chicago Family Palooza, Pheasant Run Resort, St. Charles, February 27–28.
• Kids Expo, Schaumburg Convention Center, February 27–28.
• Chicagoland Family Pet Expo, Arlington Park Racetrack, March 18–20.

Junior herpers: 36 attended this month. Good participation by the young members—one gave a good presentation on Kenyan Sand boas. January Topic—brumation. February—iguanas.

Old Business

ReptileFest: ZooMed has agreed to be a sponsor again this year.

Midwest Herp Symposium: We are using Choose Chicago to find a suitable hotel. Still need someone to organize.

Operating procedures / bylaws: John requested that board members read over the CHS bylaws before next year.

Storage: Starting January 1 taxes on rentals increase. Extra Space will pick up the cost so no increase in rental price this year. The trailer is now at the facility on Harlem. We need an inventory of its contents and an inventory of material now being stored by Bob Bavirsha.

CHS e-mails: Someone's account is being used to send out spam. Those with CHS e-mail need to change their passwords. Permanent solution being worked on Some discussion of limiting e-mail accounts. Not all board members may need them.

The meeting adjourned at 9:10 P.M.

Respectfully submitted for the recording secretary by Teresa Savino

ReptileFest 2016

The Beasts Awaken
(or maybe not)

We don't care if your animals are awake or asleep as long as people can see them. We're on a mission in the CHS. We're trying to educate people about the animals that so fascinate us by showing them up close and personal. Sure we'll have lots of animals interacting with the public, but display-only animals are just as important. We need that frog or that chameleon and YOU talking about why you care about them and why everyone should. It's important and it's fun. Just be there!

April 9 & 10
Northeastern Illinois University
Physical Education Complex
3600 W Foster Ave, Chicago

Sign up to exhibit at: http://chicagoherp.wix.com/reptilefest#!get-involved/crxa

Advertisements

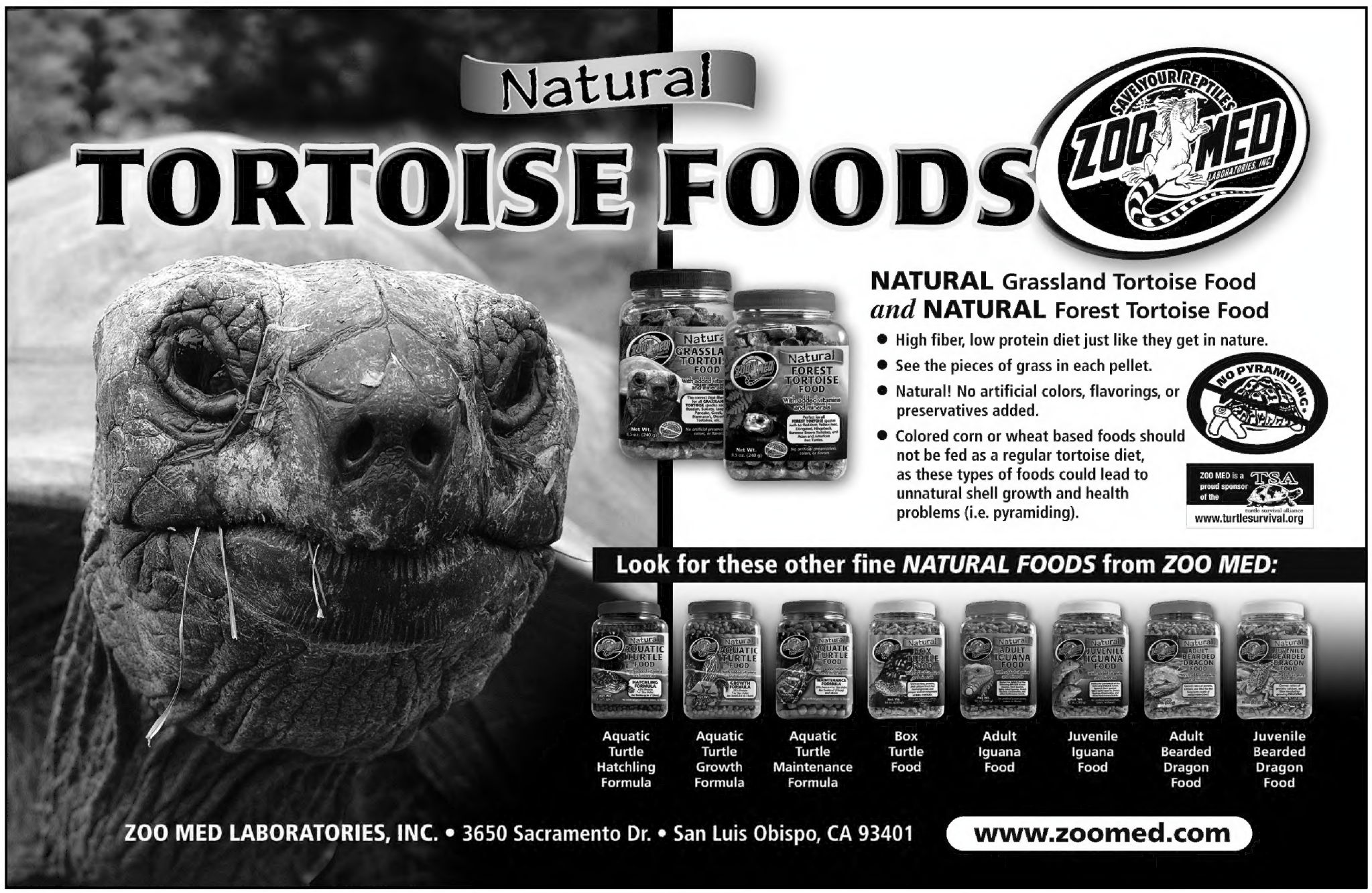
For sale: **highest quality frozen rodents**. I have been raising rodents for over 30 years and can supply you with the highest quality mice available in the U.S. These are always exceptionally clean and healthy with no urine odor or mixed in bedding. I feed these to my own reptile collection exclusively and so make sure they are the best available. All rodents are produced from my personal breeding colony and are fed exceptional high protein, low fat rodent diets; no dog food is ever used. Additionally, all mice are flash frozen and are separate in the bag, not frozen together. I also have ultra low shipping prices to most areas of the U.S. and can beat others shipping prices considerably. I specialize in the smaller mice sizes and currently have the following four sizes available: Small pink mice (1 day old—1 gm) , $25 /100; Large pink mice (4 to 5 days old—2 to 3 gm), $27.50 /100; Small fuzzy mice (7 to 8 days old—5 to 6 gm) , $30/100; Large fuzzy mice / hoppers (10 to 12 days old—8 to 10 gm), $35/100 Contact Kelly Haller at 785-234-3358 or by e-mail at kelhal56@hotmail.com

For sale: Standard 24" Neodesha reptile cages, 3 × 6" vent on top, tempered glass front. Like new condition, no burns or stains, original glass. These cages do not have the dam (horizontal molding that crosses the entire front width of the cage, used to hold back bedding material)—easier to clean without the dam. About 20 currently available, $45 each. Linda Malawy, (630) 717-9955, linda_malawy@hotmail.com.

For sale: High quality, all locally captive-hatched tortoises, all bred and hatched here in the upper Midwest. Baby leopards, Sri Lankan stars, and pancakes usually available, and are all well-started and feeding great! Leopards are $125 ea., Sri Lankans (2012 hatched) $475 ea. And Pancakes are $195 ea. Leopards for out of state sale/shipping require a veterinary health certificate (inquire for cost). E-mail at KKranz1@wi.rr.com or call Jim or Kirsten at 262 654 6303.

Herp tours: **Costa Rica herping adventures**. Join a small group of fellow herpers for 7 herp-filled days. We find all types of herps, mammals, birds and insects, but our target is snakes. We average 52 per trip, and this is our 10th year doing it. If you would like to enjoy finding herps in the wild and sleep in a bed at night with air-conditioning, hot water and only unpack your suitcase once, instead of daily, then this is the place to do it. Go to our web-site http:// hiss-n-things.com and read the highlights of our trips. Read the statistics of each trip and visit the link showing photos of the 40 different species we have found along the way. E-mail at jim.kavney@gmail.com or call Jim Kavney, 305-664-2881.

Line ads in this publication are run free for CHS members—$2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to mdloogatch@chicagoherp.org.



Chicago Herpetological Society
Income Statement: January 1 -- December 31, 2015

Income		Expense	
Adoptions	$ 1,060.84	Adoptions	$ 147.19
Grants	82.00	Grants	7,500.00
Membership dues	10,868.80	Bulletin printing / mailing	12,493.72
ReptileFest	100.00	ReptileFest	3,275.68
Merchandise sales	220.00	Cost of merchandise	.00
Junior herpers	413.00	Junior herpers	677.81
AmazonSmile	20.34	Awards	24.26
Interest	53.60	Rent (storage)	413.00
Donations (unrestricted)	3,213.74	Bank / PayPal / Square fees	201.88
Raffle	384.00	Donations (conservation)	50.00
		Other CHS shows	1,273.00
		Liability Insurance	2,373.00
		Equipment and supplies	83.21
		Licenses and Permits	406.00
		Postage	1,859.83
		Membership related	53.25
		Speaker reimbursement	1,918.76
		Miscellaneous	326.01
Total Income	$16,416.32	Total Expense	$33,076.60

Net Income $(16,660.28)

Chicago Herpetological Society
Balance Sheet: December 31, 2015

Assets	
Checking	$ 4,409.92
Money market	47,604.91
Petty cash--show fund	134.79
PayPal	1,644.07
Postage on deposit	706.68
Total Assets	$54,500.37
Equity	
Restricted -- Adoptions	$ 7,383.29
Restricted -- Grants	60.00
Retained Earnings	63,717.36
Net Income	(16,660.28)
Total Equity	$54,500.37

UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, January 27, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago. The speaker will be **Dr. Matt O'Connor**, staff veterinarian at the Shedd Aquarium. Matt will speak about "The Great Philippine Turtle Rescue." In June of 2015 roughly 4,000 turtles destined for the markets of China were confiscated from a warehouse on the island of Palawan in the Philippines. Nearly all of these turtles were the critically endangered Philippine forest turtle (*Siebenrockiella leytensis*), a species thought to be extinct until it was rediscovered back in 2001. An international effort quickly materialized involving many organizations that brought turtle experts and medical supplies from around the world within a matter of days to respond to the crisis. Matt was one of those able to lend his expertise and assist with the treatment and release of these rare Philippine forest turtles back into the wild. He will share the story of the turtles and results of the international efforts.

A speaker has not yet been confirmed for the February 24 meeting. Details will be posted on www.chicagoherp.org when they become available.

The regular monthly meetings of the Chicago Herpetological Society take place at Chicago's newest museum—the **Peggy Notebaert Nature Museum**. This beautiful building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meetings are held the last Wednesday of each month, from 7:30 P.M. through 9:30 P.M. Parking is free on Cannon Drive. A plethora of CTA buses stop nearby.

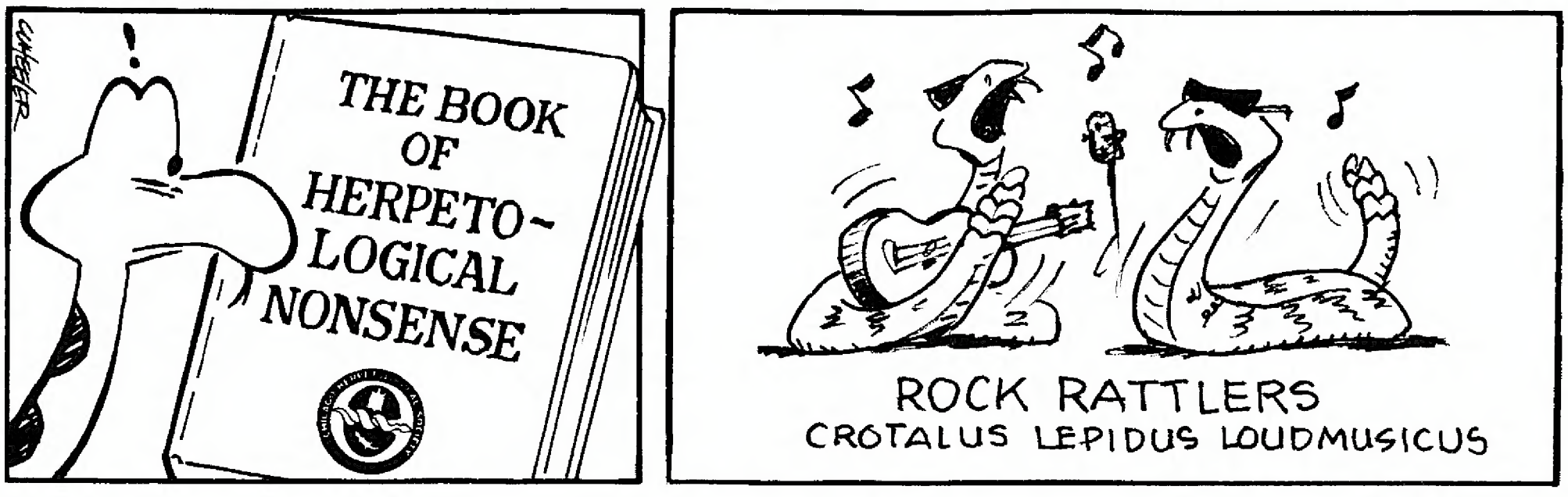
Board of Directors Meeting

Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? If so, mark your calendar for the next board meeting, to be held at 7:30 P.M., Friday, February 12, 2016, at the Schaumburg Township District Library, 130 S. Roselle Road, Schaumburg.

The Chicago Turtle Club

The monthly meetings of the Chicago Turtle Club are informal; questions, children and animals are welcome. Meetings normally take place at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. Parking is free. For more info visit the group's Facebook page.

THE ADVENTURES OF SPOT



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